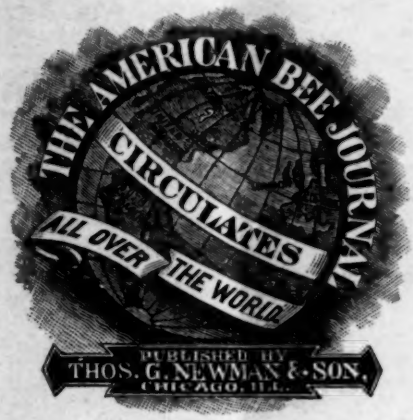

Our Club Rates are: **$1.90** for two copies (to the same or different post-offices); and for THREE or more copies, 90 cents each.

THOMAS G. NEWMAN,
EDITOR.

Vol. XXVII. June 4, 1891. No. 23.

Editorial Buzzings.

There are as many lovely things,
As many pleasant tones,
For those who sit by cottage hearths,
And those who sit on thrones.

The Punic Bees very seldom sting, but they are not stingless bees.

Tea Leaves, in a pan of water, is advised by an English apiarist, to be provided at drinking places for bees.

Dark Colors should be avoided when painting hives. The combs will melt down more quickly in such hives, during the warm Summer weather.

The Injury to fruit, which is sometimes charged to the bees, begins with decay, birds, wasps, or other pilferers, for bees never puncture the sound skin of fruit.

In Sanilac County, Mich., it is reported that there are over 200 bee-keepers. The honey crop of that county is valued at $60,000. That shows that the bee-keepers are progressive, and up with the times.

Justice asks, "Why should bees be taxed, and poultry escape taxation entirely?" We give it up. Either both should be taxed to defray the expenses of the Government, or neither should be compelled to do so!

Mark with Ink any articles you may want us to see in newspapers sent to this office. Otherwise, the item you desire to call attention to may never be discovered. We receive so many papers that it would be utterly impossible to read them all through to find an item.

The Poet vainly asks: "How doth the little busy bee improve each shining hour?" Well, judging from its everlasting buzzing, and its constant use of the comb, we should say that the bee put in its shining hours running a barber shop. Next!

Sections of the regular sizes can be obtained at all times, but those who will use sizes out of the ordinary run (that is 4¼x4¼, or 5¼x6¼), should have had them made, and in their apiaries long ago. Mills cannot stop now to change their machiney to run *odd sizes*. This shows the folly of using odd sizes of sections or frames.

"Excluder Zinc" is what it is called in England, when mentioning what we call "perforated zinc" for excluding queens and drones. The editor of the *British Bee Journal* (on page 176) says: "The most perfect form of excluder we know of is that... ..made by Dr. G. L. Tinker." It is now being made and sold in England, as advised by Mr. Cowan.

Annual Reports of the different agricultural associations in every State should be printed and circulated at public expense. In Indiana, Wisconsin, and some of the other States, such has been done for many years, and books of from 500 to 1,000 pages are published every year, giving the reports of the various societies—including the essays and discussions—so that those engaged in all the agricultural pursuits may have them in their libraries for convenient reference at all times.

In Illinois it is intended to have all the State associations meet at Springfield at about the same time (as they do in Indiana, Wisconsin, and other States), and the Bee-Keepers' Association will meet there like the others; their reports will all be published, either together or separately. If the latter, then a bill now before the Legislature, if enacted, will provide the means of publishing our report.

The following item among last Thursday's telegraphic news, shows the present condition of that bill. It reads thus:

The bee and honey industry received the attention of the House for a half-hour this morning. On motion of Mr. Hambaugh, the bill making an appropriation of $500 to publish the reports of the Illinois Bee-Keepers' Association was renewed, and was ordered to "third reading."

Canton, Ills., as stated on page 533, has had its sensation—a lively bee-nuisance case—and, as might have been expected, the Justice of the Peace decided it against Mr. Geo. W. Cole, and assessed a fine of $1, and costs of $21.70. It is quite essential that a decision should be reached by the Supreme Court of Illinois on the question of whether bee-keeping can be declared a nuisance, or not, in incorporated cities. This case will furnish the opportunity, and the National Bee-Keepers' Union will give the requisite assistance to do so, if it becomes necessary.

Honey-Dew is reported to be quite plentiful. Prof. A. J. Cook, on May 29, wrote thus:

Bees are gathering honey-dew quite rapidly now from the *aphides*. These insects are very numerous.

Great care should be taken not to allow any of it to be stored in the sections. If such stuff should by any accident be put upon the market, it would not take very long to destroy that market for comb-honey. It is not honey, and to call it "honey-dew" is a misnomer.

We Now Have another *Bee-Keepers' Review* besides that published by Brother Hutchinson. It is published monthly in Weixelburg, Austria, and began with the year 1891. It has 12 large pages, and is published by Philipp Rothschutz.

Stung in the Eye.—A subscriber asks the following questions:

1. Would it not be very dangerous if a bee should sting a person right on the eye ball? Would there not be danger of losing the sight in that eye forever?
2. Would a colony of bees stay and do well in a hive that had glass on both sides and ends of the lower story?

1. The eye can be destroyed by a bee-sting, yet people have been stung on *some parts* of the eye ball and soon after perfectly recovered.
2. Bees are not contented in a hive which lets in much light.

The Bronze Medal is just received for our exhibit at the Paris Universal Exposition in 1889, and with it a lithographed Diploma, 24x30 inches in size. They have been a long time in getting around, but are welcome nevertheless.

Quite True.—The man who advertises to sell something for nothing always intends to get something for nothing.—*Western Rural.*

Duty on Queen-Bees.

It is amusing to notice some of the remarks made by the daily newspapers concerning the recent decisions of the Treasury Department to collect customs duty on imported queen-bees. Here are a few of such, which may cause a laugh:

There is a tariff of 20 per cent. *ad valorem* on Italian queen-bees (mothers), but Sicilian pa-drones are on the free list.—*Detroit Tribune.*

The decision that Italian queen-bees cannot be admitted to the United States free of duty because they have no pedigree, and are not entered in any register, is a blow at dago royalty. It would cause no regret if the rule were applied rigorously to other importations from Italy.—*Detroit Free Press.*

Considering the usefulness of queen-bees, it seems an unjust discrimination that imposes a duty upon them before entrance to this country, and admits members of the Mafia free. If it were not for the latter fact it might be thought that the bees were barred because they are known to carry stilettos. —*Indianapolis Journal.*

The Treasury Department has decided that queen-bees sent through the mails from Italy to a purchaser in Iowa are liable to a duty of 20 per cent. *ad valorem.* Under the fine-drawn provisions of the McKinley tariff, the exemption heretofore accorded to animals intended for breeding purposes cannot be made to cover queen-bees. Those royal insects have no recorded pedigree. McKinley insists on a pedigree, or in default, the payment of a fine.—*Philadelphia Record.*

The customs collector at New York has been authorized by the Treasury Department to order the release on the expected arrival there of a shipment of Italian queen-bees, sent through the mails from Italy to a citizen of Iowa, upon the payment of a fine equal to the duty due thereon.

Under the act of March 3, 1883, queen-bees were held to be exempt from duty under the provision for animals, especially imported for breeding purposes. The tariff law of 1890, however, excludes from these privileges animals not usually recorded in special books and pedigrees, and consequently renders these bees liable to duty at 20 per cent. *ad valorem.* The importer was not aware of the new provision of law when he ordered the shipment above referred to, and he will have to pay the duty due thereon.—*Telegraph.*

Bee-keepers complain that the McKinley tariff bill has put a duty of 20 per cent. *ad valorem* on queen-bees imported into this country. Bees are live animals, and hence come under the provisions of the act. They have no registered pedigrees, so cannot squeeze in as "animals imported for breeding purposes." The Secretary of the Treasury has been appealed to, but the provisions are so strict there is no loop hole big enough to let even a queen-bee come in.—*Michigan Farmer.*

Swarming peculiarities are thus questioned by Thomas Hill, of Young's Creek, Ind.:

1. Why do bees fill the hive and sections with honey, and then swarm before capping the honey?
2. Why do they sometimes swarm, and then return to the hive again?

1. Bees do not, as a rule, fill the hive and sections before swarming; if they did we could very easily keep them from swarming at all, by seeing that they, at all times, had unfilled room.

2. Because the queen fails to get into the air with the swarm, or after so doing drops down, or the bees are only half-hearted about swarming in the first place, and conclude to give it up.

Queen-Rearing by Doolittle's method is a success in the hands of extensive breeders as well as by novices. John Nebel & Son, High Hill, Mo., on May 25, 1891, write thus:

We now rear all our queens by the Doolittle method. Last year we reared 800 queens, and nearly all of them were reared as advised by his book. This year we have so far reared about 400, and we would not now adopt any other plan. If any have failed, they must have made bad work in starting queen-cups.

No Railroad Man in the world is more widely known, or more popular, than Chauncey M. Depew. Over the caption of "Our National Orator," a magnificent picture of him is presented on the first page of *Frank Leslie's Illustrated Newspaper* this week.

One-Eyed Bees.—Mr. N. Stainger, of Tipton, Iowa, has sent us a malformed bee, having but one eye, and asked what was the cause of the sport. We sent it to Prof. Cook for reply. His rapturous joy over the monstrosity brought the following, which will be read with much interest:

A CYCLOPEAN WORKER-BEE. — That does not mean a giant bee, nor even one extra large, but refers to a bee with but one eye. A large crescent-shaped eye, symmetrically placed in the middle of its head.

I have received all sorts of monstrosities among bees, but nothing before like this.

I need not tell you, Mr. Editor, that I was delighted to get this. The bee is in no otherwise peculiar, except, of course, that it has no simple eyes or ocelli. The vertex, back of the eye, is about as wide as the eye, and very hairy. It is a curiosity that would grace any insect cabinet, and delight any entomologist. I wish Mr. Stainger would carefully look over the bees of this colony, and see if he does not find some more.

I think such malformations come from some abnormal condition of the queen, and, if so, the finding of one would suggest the probability that more were at hand.

I am pleased for another reason, to find such unique examples. They argue a very observant bee-keeper. The very nature of apiculture tends to make its patrons close observers, and it takes sharp eyes to discover such curiosities.

Last year it was our enterprising young friend, J. T. Timpe; now Mr. N. Stainger. Who will it be next?

I hope that Mr. S. can send me some more of these uniques. I hope that he knows the colony from which this came.

A. J. COOK.

The Report of the Secretary of Agriculture for 1890 is on our desk, marked "with the compliments of Secretary Rusk." On page 29 we discover the following, which will be of interest to apiarists:

The increased appropriation to this division will justify renewed attention to the subject of bee-culture, and plans are being formed to carry on whatever investigations will tend to advance this important industry. The investigations already made under direction of the entomologist, had for their object the control of the fertilization of the queen, whereby bee-keepers would be able to improve the disposition and the honey-producing qualities of their bees by selection, in the same manner in which the stock breeder and the fruit-grower have for so many years successfully improved our domestic products. There is reason to believe that this can be accomplished with reference to the bee; but there are many other ways in which the Department can help the bee-keeper in investigations upon a scale which neither individuals nor associations can afford to pursue. This is especially true in reference to the study and introduction of bee-plants from sections of the country or other parts of the world where they are valuable, into sections where they are not yet known. This applies also to the introduction of bees known to have desirable qualities, as, for instance, the *Apis dorsata* of Ceylon.

Swarming has commenced. A few swarms are reported on page 740, and here is another report, received just as these forms are being closed. Mr. D. McLean, of Delavan, Wis., wrote thus on May 29, 1891:

My first swarm came out on May 29, from an Italian colony. I have 40 colonies, and all seem to be in fine condition, promising generous increase.

Procrastination. — A word of warning is given in the *Prairie Farmer* by Mrs. L. Harrison, of Peoria, Ills, about having necessary supplies at hand when needed. She says:

The poet has well said that "Procrastination is the thief of time." This very cunning fellow has stolen much from bee-keepers by telling them, "Time enough yet; wait and see if you need them before ordering hives, sections, etc." Last year many colonies swarmed and emigrated for lack of hives to put them in, and honey wasted for want of sections. Bee-keeping, instead of being a heaven-born pleasure, became a fret and worriment. Factories ran night and day during the busy season to keep up with their orders and then failed. Goods sometimes go astray, and are many weeks in transit, and when they arrive at their destination, the honey-shower is over.

Queries and Replies.

To Prevent Hive Covers Leaking.

QUERY 769.—My hive covers are flat, and made of three pieces of matched pine lumber. What is the best and cheapest way to keep them from leaking? I find that, no matter how well the lumber may be seasoned, the hot sun of Summer will shrink them apart, cause them to leak, and often stain the sections.—Illinois.

Cover them with tin.—M. MAHIN.

Cover with roofing tin.—J. P. H. BROWN.

A faithful use of white lead and oil.—R. L. TAYLOR.

I use a sheet of tin, or a tin roof.—G. M. DOOLITTLE.

Cover with tin. If that rusts, paint it. —EUGENE SECOR.

Keep them heavily painted with white lead, and use sunshades.—J. M. HAMBAUGH.

I do not like such covers. Some cover the tops with tin or zinc, and paint them. That is sure.—A. J. COOK.

Our hive covers are of two pieces of matched lumber, and kept well painted, and we are not troubled with their leaking.—MRS. L. HARRISON.

We use a rough roof over the top. It is very economical and useful, as it saves the hive, and shelters the bees from the hot sun.—DADANT & SON.

Cover them with tin, zinc, or galvanized iron. Cotton cloth, well painted (and kept so), will answer the purpose for a long time.—J. E. POND.

After no little experimenting, I settled on tin for any cover too wide to be made of a single board. It costs more, but it lasts longer.—C. C. MILLER.

Give the covers a good heavy coat of paint, and then run the cracks full of dry sand. After a day or two scrape off the surplus sand, and give them another coat of paint.—C. H. DIBBERN.

Cover each crack with a strip of tin, about 1½ inches wide, laid in paint and well nailed. You can use cotton cloth, laid in paint, with good results if it is well painted.—H. D. CUTTING.

Strips of tin, well nailed down, over white lead paint, as thick as it can be put on, will stop the leaks; but whole sheets of roofing steel (which is cheapest), or of roofing tin, is best.—G. L. TINKER.

No flat cover will protect my hives from slight leakage. I use an overcover, or shade board, made of rough lumber, and break the joints so as to turn water. In this way my hive covers are protected from sun warp, and the combs are kept dry.—G. W. DEMAREE.

The *best* way is to make them of one piece—I do so. Or, you might use a piece of cloth, and paint over it. I have done this for 15 years where splits or checks compelled me to, in order to save a cover. Paint rots cloth, however. I learned this trick of Ed. J. Oatman, of Dundee, Ills.—JAMES HEDDON.

It is more desirable to have the flat covers of hives made of one piece of seasoned lumber, with end cleats to keep them from warping. When this cannot be done, have the boards well matched, and put together with paint. Then *keep them well painted*, and they will the better endure the heat of the sun.—THE EDITOR.

Sundry Questions.

Sugar Syrup for Winter Stores, Etc.

1. If a colony of bees (in the Fall) have 20 pounds of honey, and it is all taken away, how many pounds of granulated sugar will it be necessary to feed to them to put them in as good condition for wintering as before? 2. Calling ten hours a day, how many pounds of honey ought two men to extract in a day?

A READER.

[1. While I believe that properly-made granulated sugar syrup is not only safer, but will go further, pound for pound in wintering bees than will honey, I should make a rule to give them about the same number of pounds they had before. Another thing, you must remember, there is what may be called silent robbing in all apiaries, and I never fed 100 or more colonies, but what there were several in the apiary wholly destitute after I had finished, and yet no robbing had been seen to take place.

This phenomena must be watched in feeding bees. Probably the best way would be to destroy the colonies that willingly allow their stores to be carried off, and in this way stop the breeding of that kind of bees.

2. This question does not admit of a comprehensive answer, but suggests the following questions before such answer can be given:

What kind of bees?
What kind of hives?
What kind of extractor?
What kind of honey?
What kind of flow?
What method of ripening honey, if any?
What kind of men do the work?

There would be a difference of about ten to one, if all the above were favorable or unfavorable.—JAMES HEDDON.]

Not Caterpillars.

Enclosed find a sample of linden leaves from a tree near my house. If those are the larvæ of the caterpillar the crop of worms should be good this year.

Alexandria, Minn. J. M. DOUDNA.

[These are not caterpillars at all, but galls of the Linden Pdytoptus mites. These are very minute four-legged mites. They work in the teat-like galls, which are on the upper side of the leaves, and open below. From these openings the mites come out and move a little, commence to suck, and so form another gall. These galls are very plentiful on maple, pear, plum, linden, etc. Some of the maple galls are bright red, and quite beautiful. The mites are cylindrical, possess many segments, and lay quite large eggs, considering their very minute size.

They are so small that they can only be studied, or even found, with the aid of a good microscope. I do not think they do very much harm. A very vigorous maple near my house has been fairly covered with them for years. I know of no way to destroy them, but think I could find a way, were they bad enough to warrant it.—A. J. COOK.]

Starters, Spreading Brood, Etc.

1. When full sheets of comb-foundation are not used in the brood-frames, what width of strips is it best to put in; and how is it best to fasten them to the top-bar? 2. Is it a good plan to clip the queen's wings? How should it be done? 3. Does it pay to spread the brood-nest in the Spring? 4. Which is the best way to have the hives in the apiary; in rows or scattered about? L. O.

[1. Foundation guides in the frames are worth more to me when three or four cells wide, than when as many inches in width, and I would prefer the narrow ones at the same price. The reason is this: They have no wires to hold them in place. The top is held absolutely perfect, and all of the piece will be so, too, if very narrow. If wide, the bottom will be wavy, and so will the comb in general, after it is all finished. About three or four cells wide is best. The best way to fasten it to the top-bar is to have the bar smooth, and the wax at 100° temperature, then mash the foundation with a putty knife, dipped in honey, or a mammoth Parker foundation fastener, made for brood-frames. With the putty knife, 75 an hour can be put on. With a large foundation fastener, many more.

2. No; I do not think it best to clip the wings of queen-bees. The practice has its advantages, but I find necessary disadvantages which will over-balance them.

3. No, it does not pay to spread the brood in the Spring, as has been proven by years of sad experience. Neither is it at all necessary, if the hive is rightly arranged.

4. I set my hives in rows, the second row breaking joints with the first, and so on through the apiary. The "scattered about" plan is not bad, and in some apiaries, favorably located for it, it would be all right. I do not lose queens, however, with the row plan as stated above, and yet I have all my hives as nearly alike as possible. There are many reasons why they should be, in color and otherwise.—JAMES HEDDON.]

"B" or No "B."

I really think my sister May
Is stupider than me,
Because she said the other day
There wasn't any "b"
In honeycomb, and spelt it just
"C-double o-m-e!"
Of course she's wrong. I told her so;
There's got to be a "bee"
Somewhere in honeycomb, because
He makes it, don't you see!

—Wide Awake.

Topics of Interest.

Method of Hiving Swarms.

J. P. SMITH.

I have three distinct objects in view in hiving swarms: First, to prevent after-swarms; second, to prevent absconding; third, to obtain the largest amount of honey.

This method is not original with me. I am indebted to the good bee-books and bee-periodicals for my ideas. These ideas, obtained by careful reading, I have reduced to practice. In this article I will give my practice and just what my experience has been. I think my success shows the wisdom of my course.

As soon as the swarm clusters, I prepare the hive for them, locating it on the old stand, removing the parent colony to some other location.

I prepare the new hive by putting in two frames (with adhering bees) from the old hive, containing some uncapped brood and some honey, cutting out all queen-cells. I place these in the center of the hive, and fill the remainder of the hive with frames of empty comb, if I have them; if not, with frames filled with foundation.

If I think I have not robbed the parent colony enough, I shake bees from the frames of the old hive in front of the new one. I place the surplus chamber from the old hive—which, generally, at this time contains sections partly filled—on the new one. I find that by doing this the bees go right along with the work in the surplus chamber.

I next bring the swarm to the new hive, and let them run in at the entrance, which they will always readily do when the hive is prepared in this way. I bring the swarm on the bush or limb on which they alight, if they alight in a place where it is convenient to do so.

In case I find they are about to cluster in a place that will not be convenient to bring them from, I produce my swarming box, and catch them in that, and thus bring them to the prepared hive. The parent colony, served in this way, seldom casts a second swarm, and thus my first object is accomplished.

By hiving the swarm at a distance from where it alights, the returning "scouts" that have been in search of a "bee-tree," are prevented from finding the swarm, to escort it to the woods.

I have not had a swarm to abscond for several years, owing, as I think, to hiving them at a distance from where they alight, or to the presence of uncapped brood. Thus, my second object is accomplished.

In hiving in this way, it keeps the working force all together, and I think this accomplishes my third object, for I believe they will gather more honey than if in two forces. All I expect of the parent colony is to build up for Winter.

Just before swarming time, I put up about half a dozen spruce bushes in my apiary, placing them so loosely in the ground that they can easily be taken up. These bushes catch most of my swarms, thus rendering hiving very convenient.

I have no clipped wings, and no artificial swarms. My frames are all of the same size, so that they are interchangeable. If the weather is very warm, I shade the new hive. I never use any tin pans or force pumps.

Sunapee, N. H.

Early Pollen-Bearing Trees.

A. C. BUGBEE.

It is quite important that bee-keepers should have an abundance of early pollen-bearing trees in their immediate vicinity.

It is likely to be too cold or windy at the time early pollen-bearing trees bloom for the bees to fly to a distance, and if there is plenty of early pollen near, it will save many bees, besides encouraging them in brood-rearing.

The first pollen gathered in my locality comes from white maple, but I do not think them of much value, as they do not blossom until quite large, and some seasons so extremely early as to be of little use to the bees. In 1889 the white maples bloomed here in February, and not a pellet of pollen did the bees get from them, and if they had it would have been an injury to them.

The next tree to bloom is the box-elder, then the yellow and gray willow.

These I consider of great value to the bees, as they produce pollen and honey in abundance—the pollen mostly coming from the box-elder, and the honey from the willow, I think, though it is difficult to say particularly in regard to this, as their bloom overlaps, but comes in the order named.

I have had my bees fill their combs from this scource, and even begin to build new comb, showing that they were crowded for room.

We must not imagine this to be the only value for the trees, for we all want an abundance of trees about our places for various purposes. In all the vegetable kingdom there is nothing so grand, as a beautiful, symmetrical tree.

After the willow bloom comes the cherry, plum, crab-apple, and apple bloom, all overlapping each other, so that there is no interval until after apple bloom.

From this time until raspberry bloom there is an interval of two weeks, and if it will ever pay the bee-keeper to feed bees when they have an abundance in the hive, *this* is the time.

Now, I have written of my location, which is on the prairie in northwestern Indiana, about half way between Chicago and Indianapolis.

Lochiel, Ind.

Queen-Cell Protectors and Cages.

N. D. WEST.

I have used the queen-cell protectors and cages for about two seasons with success, and this Spring I have secured cells and put them in protectors and cases, and placed them back in the same hive to hatch. Yesterday I found 4 hatched out in cages, as happy as they could be in confinement. This was a colony that was superanuating their queen. When introducing queen-cells to a colony (and I do it at the same time that I take out the old queen), if for any cause I am doubtful about the cell hatching, I use two cells to be sure; put one cell in the protector, so that the queen can run out on the comb when she hatches, and one cell in the protector and cage combined, then when I look again, if both hatch, I save the one in the cage. If the one in the cage should hatch, and the other did not, let her out, as she is already introduced. I do my requeening in the swarming time, using the best cell from my best strain of bees.

Middleburgh, N. Y., May 21, 1891.

Neck-Yoke for Carrying Bee-Hives.

F. H. M'FARLAND.

Not having always found it an easy matter to procure good, efficient help to assist in carrying bees to and from the cellar, I began some time ago trying to invent a way by which I could do the work more speedily and easily.

Sometimes I would endeavor to do this work alone, carrying one hive at a time; but I found a hive of bees rather awkward to get hold of to carry any distance, and very tiresome when one has 100 or more colonies to place in winter quarters, as I have had.

At other times I would place 2 or 3 colonies on a board, and take them to

NECK-YOKE HIVE-CARRIER.

the cellar or to the yard, with the aid of an assistant. I found these methods quite unsatisfactory, as well as the plan of taking two men to carry in one hive at a time, which was not expeditious enough, and too expensive.

I remember, when I used to work in the maple-sugar bush, we had sap-yokes to support and balance the pails on either side, and it occurred to me that this yoke might be adjusted for moving hives. After some little thought upon the subject, I studied out the arrangement here illustrated.

The yoke consists of two bent pieces of wood, fastened together in such a manner that, when adjusted, one piece is in front and one behind the carrier, and the weight comes squarely upon the

shoulders by means of two wide pieces of webbing, making a very easy support.

The clamp attachment to the hive is of my own construction. I have loose bottom-boards, similar to the dovetailed hive, and this clamp springs on to the bottom-board at the front and rear ends of the hive. It is very quickly put in place and taken off.

I have used this yoke and clamp for some time past, and find it the most convenient contrivance for moving hives I have ever seen. By its use one man can do the work of two; do it easier, and with much less jar to the bees.—*Gleanings.*

Perforated Zinc Just Right in Size.

DR. G. L. TINKER.

I enclose herewith three samples of zinc, two of mine, and one that was taken from a swarm-hiver that was sent to me. I send the samples because there are three sizes of the perforations, though you will see little difference by the unaided eye.

The two-rowed piece with the corner clipped off, has the smallest perforation that can be used without the bees getting their heads fast in it. This is as I make the strips when the dies get a little dull. After sharpening, it makes perforations like the other sample, that is as large as it is safe to use as a queen-excluder.

The piece of square-end perforated zinc I put on trial before one of my hives, and in less than one-half a minute three bees were fast in it by the tops of their heads and tips of mandibles. I had tested it by my gauge, and knew they would be caught before I tried it.

I desire to call your attention to this matter, because I know that a reliable perforated zinc cannot be made for bee-keepers' use on a machine that makes many holes or perforations at one time.

I am sure that the accuracy required is so great that no one will be able to do it, so that a very cheap, reliable grade of perforated zinc cannot be made, and particularly for swarm-hivers and in queen-rearing, etc., where no queens must get through.

I regret that a grade of zinc is on the market with perforations too small, as many bee-keepers may be turned against the use of perforated zinc altogether.

I also enclose a sample of work on the new machine. It makes beautiful work in a whole sheet 24x42, all as perfect as can be.

New Philadelphia, O.

Texas Apicultural Notes.

A. C. ATEN.

We have had plenty of rain since my last, but most of the time the weather has been rather cool, especially at night.

On last Sunday there was a hail storm, with wind, and a deluge of water, over an area of country in this county (Travis), at least six miles long and three wide, which did a great deal of damage, destroying the cotton crop, and injuring all other crops.

One of my apiaries was near the center of the storm. I visited it to-day and found it all right, and the bees gathering honey. I presume the little fellows were frightened almost to death, for there must have been a fearful pattering on the hives.

Bees are doing pretty well here, and I think this is the beginning of as good a honey-flow as we have had for many years. They are gathering honey at present principally from horehound, wild marigold, and horsemint.

This is a great country for horehound, which is a splendid honey-plant, and appears to be on the increase; it has been in bloom over three weeks, and, owing to the seasonable weather, is still blooming. It does not produce bitter honey, but even if it did it is nearly all used up in brood-rearing.

The wild marigold, so-called, is really no marigold at all. It has corymbose heads, something like a sunflower; the rays are reddish-brown, tipped with yellow. The honey is amber colored, and most people like it very well.

Texas horsemint is very different from any horsemint I have ever noticed in the North, and is very plentiful some years, especially this year. It produces its flowers in auxiliary whorls, from 3 to 5, and sometimes more, on each branch, very much like horehound—at least the kind we have here. Horsemint honey is light and clear, with a little of the mint taste, and most people like it very much.

I had to feed my bees over 200 pounds of honey, but lost very few from starvation. I would have lost 20 or 30 colonies if I had not fed them. These colonies will probably gather over 2,000 pounds of honey, which will well repay the trouble and expense of feeding, as I always store the unsalable honey for that purpose.

A few words now in regard to foul-brood. While I have never seen any, and wish I never may, I most firmly be-

lieve that it never starts spontaneously. While we have very little chilled brood here, we do have some, and often brood dead from various causes.

There is probably no foul-brood within 200 miles of me, and this chilled or dead brood never generates foul-brood. Now, if foul-brood could be produced without contagion, there would certainly be a case once in a while. Mr. Robinson will never be able to prove the spontaneous production of foul-brood if he writes until doomsday.

I wish to say to friend R., that I have as good reasons for my belief, or better, than he has for his. His theory is unreasonable, contrary to all known laws, and about as rational as the belief of some people that the sun revolves around the earth. He might chill brood here by the ton, then let it rot and ferment, and he never would produce a case of foul-brood without introducing some of the foul-brood germs.

One point I wish to make is, that no one can be right certain that foul-brood started spontaneously in their apiary, especially when they live within 10 to 30 miles of where it is known to exist.

I have used G. M. Doolittle's queen-cell protectors (see page 569) for the last two years, and find them a great advantage.

Round Rock, Texas, May 20, 1891.

Successful Out-Door Wintering of Bees.

J. H. LARRABEE.

In any discussion of the subject of out-door wintering, Vermont should, I am sure, have a voice. All over the State, but more especially in the Champlain valley, bees are wintered out-of-doors. Whether those who inaugurated this system do so with a full knowledge of all the advantages to be obtained with light hives and cellar wintering, I know not, but the fact remains that scores of bee-keepers here practice this method with scarcely a desire for a change.

Our valley is favorably situated, the cold being tempered by warm breezes from the lower Hudson region; but an examination of the meteorological observations of the Signal Station at Burlington, would convince many that this effect is not too apparent.

But there are other reasons beyond the control of the average bee-keeper, why our bees winter so successfully.

The character of the honey used for winter stores is generally of the best, as so little Fall honey or honey-dew is obtained, that the major part of the winter stores, if of honey, must be of the white honey crop. This same lack of Autumn forage also renders late breeding light, and frees the combs of much surplus pollen. It is not a rare occurrence to find no brood of any kind in the hives by the first of October.

Winter flights are very desirable at a proper time, but may be injurious. A good flight during December is always beneficial, but one between Jan. 10 and Feb. 15 is often extremely injurious, as breeding is induced; and should no flights occur until April 1, as often happens, diarrhea may be the result.

If Spring protection is of sufficient importance to repay all the trouble of providing packing, then should we, who winter in chaff hives, congratulate ourselves upon having obtained this protection without the expenditure of one hour's extra labor.

The increased consumption of stores in out-door wintering is, I am quite sure, not as apparent at the opening of the clover bloom as on the first of April; as honey is, I contend, consumed in much larger quantities at this season, by colonies wintered in the open air.

One word more with regard to the method of packing in vogue here: The material may consist of almost any porous non-conductor of heat. Chaff and planer shavings having the advantages of lightness, are the general favorites. Care should, I think, be exercised that the packing be perfectly dry; that it may absorb as much of the moisture of the bees as possible; moisture being feared next to poor stores as a cause for Winter loss.

The packing is held in place by an outer case, consisting of two rims of about 10 inches in width each, with a good gable roof on top. These rims are about 2 inches larger, inside, than the brood-chamber, leaving that amount of space for the packing.

After the close of the honey season, the bees are left as much as possible to themselves, the only care being that they have sufficient stores for the Winter, until about Nov. 1, Fall "tinkering" and excitement being avoided as detrimental. At this time the brood-chamber cover is removed, and a piece of burlap or cotton placed upon the frames, and the top filled with packing to the depth of about 6 inches. Formerly the super packing was used loose, but now sacks, or trays with cloth bottoms, are used to hold the chaff or shavings. These sacks are very handy in Spring,

when, upon some warm day, it is desired to examine many colonies.

The packing is not removed until settled warm weather, and then only from the top; the sides remaining packed throughout the year. This packing at the sides I consider an advantage, even during the sultry days of basswood bloom.

In answer to the argument of cumbersomeness, I will simply say that nearly all of the improved methods of management at all seasons of the year may be practiced with chaff hives without the moving of a single one. How this may be done could form the subject of many long articles.

Last Winter I wintered 96 colonies out-of-doors in chaff. On April 1, all were alive; one was queenless, and one dwindled during April, as a result of late "tinkering."—*Bee-Keepers' Review.*

Black, Shiny Bees.

B. W. PECK.

Bees in this vicinity are doing quite well, but the weather is very cold. On May 16 ice formed half an inch thick, but still there is considerable fruit unhurt. My loss was 3 colonies out of 61; two colonies starved and the other one was queenless. On pages 677 and 678 of the BEE JOURNAL, I notice questions by J. T. Wilson and William Craig, about black, shiny bees, and like Mr. Craig, I think it is a disease. About two years ago some colonies in my apiary, that I knew had lots of old bees, had no black, shiny ones among them, while other colonies had from a few to a good many. This Spring I have 8 or 10 colonies affected, out of 58, and 2 colonies that wintered well are almost ruined with it. These colonies have plenty of brood, yet they die off faster than the young ones hatch, although the young are hatching quite fast, and the bees are piled up in front of the hives by the hundred. I examined them yesterday, and if I could see straight there were young bees affected in the same way. I examined them with a microscope, and they are hairless, or nearly so. As I have had 11 years' experience with bees, and have studied their nature quite thoroughly, I have been considerably worried about the disease (if such it is), and would like to hear from others on this subject. We are having a splendid rain to-day.

Richmond Centre, O., May 21, 1891.

Size of Passage-Ways the Bees Require.

JAMES HEDDON.

I consider it a matter of great importance to bee-keepers to have a correct idea of what mechanical appliances do, and what do not, facilitate and encourage bees to enter and rapidly carry on work in the surplus apartment.

When first adopting queen-excluding metal between the brood and surplus apartments, mainly for the purpose of knowing where the queen was at all times, especially when removing surplus cases of comb-honey, I will admit that I felt a little nervous as to the matter of whether the workers would be able to squeeze through these passage-ways with their loads of honey, so readily as not to lessen the amount of surplus honey which might be stored.

D. A. Jones, of Canada, rightfully has the credit of the great benefit which has been derived from the use of the queen-excluding metal. To satisfy myself, I began making experiments with about 40 colonies with the queen-excluders, and the same number, as nearly equal as could be chosen, without. Three times, in three different years, did I repeat the experiment, each time with a larger number of colonies, and satisfied myself that there is no hindrance whatever, as I am pleased to see is the prevailing opinion of those who answered Query 767.

The object of this article is to do away with the expensive, troublesome, and erroneous idea of Dr. Tinker. I have experimented a great deal in regard not only to the kind, but the amount of passage-way needed by the bees to do their best, and I tell you here that two rows of queen-excluding holes, the full length of the Langstroth hive, will fully accommodate the largest colony of bees that ever resulted from one queen (and that, too, in the busiest season of the year) between the brood and surplus apartments, while there are eight such rows in the break-joint bee-space board.

If one-half of them, or more, were filled with comb or glue, as they sometimes are when not properly adjusted, there is more passage-way than any colony can use, and that fact is probably one reason why the bees are not slow to plug up many of the holes, when everything is favorable for so doing.

Now, there is a serious objection to using two rows of holes. There has, of late, been discussion enough to convince the greatest novice in apiculture, that to

avoid brace-combs and glue, the bee-spaces must be exactly the right measurement.

Now, then, if the measurement is right between the upper and lower surfaces of the slats, and the brood-frames below and the surplus sections above, that space will be too large between the brood-frames and sections and the surface of the zinc, because the zinc is so very much thinner than the slats.

Owing to this well-known law, the closer the slats come together (that is, the narrower the space between the edges of the slats), by all odds, the less will be the likelihood of brace-combs being built to either side of the honey-board.

There must be some play, or allowance, in the practical construction of honey-boards, and before I would put the slats far enough apart to take in a zinc strip with two parallel rows of holes, I would, by all means, make the honey-board entirely of metal, such as I described in *Gleanings* something over two years ago.

In that honey-board either one or two rows of holes can be used over each top-bar, and the break-joint and bee-space principles both be preserved. The bee-space can be made by turning up the edges of the zinc, or by tacking on a wood border, as I made them in the first place, when Mr. Jones first announced the queen-excluding idea.

Dowagiac, Mich.

Prevention of After-Swarming.

M. H. DE WITT.

I will give your readers my plan to prevent or control after-swarming. I have found it the easiest thing in the world.

My practice is to destroy all the queen-cells at any time within three of four days after the swarm issues. When the cells are worth preserving, they may be transferred to nucleus colonies, and the queens reared. A young queen is introduced to the colony, and there is no more swarming from that hive that season.

Perhaps I should have said that when further increase is not desirable, or we have no use for the swarm, the bees may be put back into the hive they issue from, while the queen remains in the trap.

If a strange queen is introduced, it may be done by the cage system, or by fumigating with tobacco smoke. If by the former method, the cage may be placed upon the frames, or, which is still better, inserted at the bottom corner of one of the brood-frames.

Cutting out the queen-cells, and then placing the brood and other combs over the new colony, with a queen-excluder between the two hives is good, but not new. Dr. Tinker, I think, was the first bee-keeper to adopt that method.

Of course, if this plan is adopted by any one, I see no way so good to manage to obtain surplus honey as by using the extractor. I would suggest that before the transfer of the brood to the new colony, as much as possible of the honey in the brood-combs should be extracted. The whirling of the combs in the extractor would be likely to destroy any queen-cells that escaped the eye when the combs were examined.

There is another suggestion I will make here. It is this: Do not wait five days before making the transfer of brood-combs from the old hive to the new one. Do it late in the afternoon of the day the swarm issued.

The young bees will go down into the bottom hive after awhile. In two weeks from the day they leave the combs, the young bees will be in the fields gathering pollen and honey.

Sunny Side, Md.

Notes from Missouri.

BYRON HAMS.

The cyclone of the 20th inst., passed only two miles south of this place, leaving death and destruction in its path. Houses, barns, and other out-buildings were destroyed, fences and trees torn up, and fields laid waste. Three persons were instantly killed, five mortally wounded, and more than a score of people seriously hurt.

The track of the cyclone was only about 100 yards wide, but the scene presented after the passage of the storm beggars description. The cyclone was accompanied by hail, and some of the stones were as large as goose eggs.

Bees are beginning to swarm here, and yesterday they began working on white clover, but I do not expect a great deal of surplus honey from it this season.

I moved 30 colonies of my bees 6 miles north of here, last week. The day before moving them, I removed the upper story, spread a sheet of cheese cloth over the frames, and fastened it with narrow strips around the top edge of the hive.

I then tacked each lower corner of the hive to the bottom-board with a 6-penny wire nail.

The next morning, before the bees got out, I tacked a strip of lath over the entrance, and loaded them into a common farm wagon, with about 6 inches of hay in the bottom of the box.

In order to ascertain if it made any difference which way the hives set in the wagon, I placed those on one side crosswise, and those on the other side lengthwise of the wagon-box.

The hives were 10-frame Langstroth, and at the end of the journey I could see no difference in favor of either way of loading. The road was quite smooth, and I found very few dead bees, and scarcely a frame moved out of place.

If Mr. Roese will try the Muth plan of out-door packing for Winter, he will exclaim, "Eureka!"

I prefer old rags to anything I have tried for packing over the boards. The hives should be tipped well forward to allow the condensed moisture on the boards, to run down and out at the front of the hive.

Although our prospects for clover honey are very slim, I am glad to see so many encouraging reports from other localities.

Worcester, Mo., May 25, 1891.

Best Location for an Apiary.

THOS. CRISMAN.

I should say, first, proximity to alfalfa and clover fields; second, shade; third, water.

I think I can demonstrate the first two propositions by my own experience. In 1885 I moved my bees to where they are now located. There was then about ten acres of alfalfa within a mile of the apiary. Thirty-six colonies averaged 19 pounds per colony surplus. In 1886, with 25 acres of clover and alfalfa within range, 44 colonies averaged 21 pounds surplus. In 1887, with a range of probably 50 acres, the average was 28 pounds per colony. In 1888 the acreage had doubled again, and my average increased to 32 pounds. In 1889 there was not less than 300 acres of alfalfa within 2 miles of my bees, and my average was 67 pounds of comb-honey per colony, with 50 colonies, Spring count.

In 1890 I started with 56 colonies in the Spring, but owing to the lack of water to irrigate, and the small amount of alfalfa saved for seed, in connection with the dry weather in August and September, my average was about 52 pounds surplus. But as long as the seasons were favorable, the average increased about in proportion to the increase in acreage of alfalfa and clover in range of the bees.

Now, in regard to shade: My neighbor Moon, who lives about two miles from me, and has the same amount of bee-pasturage that I have, and manages his bees about the same, has them located in a dense thicket of cherry trees, where the sun and wind never reaches them in Summer. For the last five years his average has been just about 10 pounds per colony more, each year, than mine has.

My apiary is located in open ground, without any protection except a three-wire fence on three sides, and an open board fence on the other; and the only reason that I can see for the difference in the amount of surplus honey produced is the shade and protection from the wind. We each have a lake near the apiary, and the facilities for getting water are just the same in the two apiaries. If not in shade, what is it?—*Read before the late Colorado State Convention.*

Hiving a Swarm of Bees.

MRS. L. HARRISON.

A farmer bought a patent hive, and a neighbor, who had kept bees all his life, coming in, asked him how he was to get the bees in. The old bee-keeper, who had always kept bees in the old gum or box-hive, and when they swarmed cut off the limb and set the hive over it, said, "You will have to cut a hole in the bottom to put them in." There was plenty of room at the fly entrance to run them in, but he had never seen it done, and could not think of any way but cutting a hole. My bees cluster on fruit trees, and I do not want to cut off the limbs, so I shake them into a dish pan, cover them with an apron, and pour them down in front of the hive. When bees are clustered high, I have a wire basket attached to a long, light pole, which I push up under the cluster, and jar them into it. If I get the queen the first jar, as I sometimes do, as she is usually on the outside of the cluster, the rest will soon follow.—*From the Prairie Farmer of last week.*

CONVENTION DIRECTORY.

Time and place of meeting.

1891.
Aug. 6.—Rock River, at Sterling, Ills.
J. M. Burtch, Sec., Morrison, Ills.

Sept. 3.—Susquehanna County, at So. Montrose, Pa.
H. M. Seeley, Sec., Harford, Pa.

☞ In order to have this table complete, Secretaries are requested to forward full particulars of the time and the place of each future meeting.—THE EDITOR.

North American Bee-Keepers' Association

PRESIDENT—W. H. Elwood....Starkville, N. Y.
SECRETARY—C. P. Dadant.....Hamilton, Ills.

National Bee-Keepers' Union.

PRESIDENT—James Heddon..Dowagiac, Mich.
SEC'Y AND MANAGER—T. G. Newman, Chicago.

Bee and Honey Gossip.

☞ Do not write anything for publication on the same sheet of paper with business matters, unless it can be torn apart without interfering with either part of the letter.

Packing is Good.

Your Comb-Foundation and Family Scales are at hand, and I find all in very good condition. I think the Scales are excellent, and would not take the money back that I gave for them. I think your process of packing foundation is good.

E. F. CLAPP.

Dolson, Ills., May 6, 1891.

White Clover Bloom.

Honey locust and white clover are in bloom; the bees are booming, and prospects are good for a large crop of honey. My first swarm issued on May 21.

Carpenter, Ills. ED. E. SMITH.

Young Queens Laying.

The long-continued dry weather has at last ended with a fine rain lasting 48 hours, during which time 4⅛ inches of rain fell, making a good honey crop from white clover almost a certainty, as the clover is just beginning to bloom. On April 18, I finished taking my bees out of Winter quarters, and there has not been a day since that time on which they could not work. This is the best Spring for bees that I ever saw, but mine are not ready for the harvest yet, as they were all weak on account of the poor season last year. I have 195 colonies left, in fair condition; they are building up very fast, and I think they will do well. I have two young queens that have been laying since the middle of the month. Who in Iowa can beat that?

N. STAININGER.

Tipton, Iowa, May 22, 1891.

Entirely Satisfied.

The goods reached me in five days from the time of sending my order. Thanks for your usual promptness. I wish to express my entire satisfaction with all my dealings with you. The Excelsior extractor is "a dandy;" but I ordered a 2-frame, and received a 3-frame extractor for the same price.

G. O. MILLER.

Epworth, Iowa, May 25, 1891.

Honey from Fruit Bloom.

Bees have wintered well, and are doing finely. I have removed two supers full of honey gathered from fruit bloom, and the bees are working in several more. I only wintered 7 colonies, having united the weak colonies last Fall. So far I have had 2 swarms cast. I never saw a better prospect for a honey season. Last Sunday morning I noticed honey-dew on my rose bushes, and upon examination found that oak trees had a very heavy covering of it; but, strange to say, I could not find a single bee working on it. I have, in the last two years, tried several different hives, and have settled down to the use of the 8-frame dovetailed Langstroth hive, and never expect to use any other. The super has every advantage, and it is no trouble to remove the sections. There are 10 pounds of honey in the super by the time a 10-frame hive is filled below.

IRA REEVES.

Carmi, Ills., May 24, 1891.

Bees Turned Black.

Dr. Miller wishes to know if his yellow bees turned black, or were the few blacks in his neighborhood of so powerful a character as to overcome them? I do not know about the over-coming, but I do know that bees will mix. I never knew any one to keep their bees from mixing for any length of time—either

blacks or Italians—but the matter is not worth worrying over very much, because blacks are as good as Italians, and *vice versa*. I do not know of any bee-periodical that can be considered as my pet, and I believe in the theory of "the survival of the fittest," and the AMERICAN BEE JOURNAL is able to be out and visits me every week. A periodical that only comes *once* in *two* weeks is not to my liking, and when it does not reach me oftener than *once a month*, that is still worse. JOHN F. GATES.

Ovid, Pa.

Full to Overflowing.

My bees are doing well, having wintered on the summer stands. My loss was 2 colonies out of 63, and so far 3 swarms have been cast. White clover is beginning to bloom, and so are raspberries and blackberries. The hives are full to overflowing with bees, and I expect a big honey crop this year.

S. BURTON.

Eureka, Ills., May 22, 1891.

Adulterated Honey—A Correction.

In the AMERICAN BEE JOURNAL of May 14, page 642, near the bottom of second column, you make me say that I found several wholesalers and retailers of such goods, where my manuscript said several *hundred* retailers. As it makes a large difference in the seriousness of the charge, I ask for correction.

Capac, Mich. BYRON WALKER.

Only a Beginner.

I am only a novice in bee-culture, with 12 colonies of bees. Did not lose a colony the past Winter, and my bees are booming, with plenty of honey, bees and brood. JACOB MOORE.

Ionia, Mich.

Sweet Clover Honey.

Last season my crop of comb-honey was only 400 pounds from 50 colonies of bees, but my bees wintered well, on the summer stands, except 10 colonies which were put into the cellar. I left one small colony, with only about a quart of bees, on the summer stands, with about 10 pounds of stores, as an experiment. I gave them no protection—not even a blanket. They were in a 10-frame Langstroth hive, and, to my surprise, they came through the Winter all right, and are now busy carrying in pollen. My cellar is damp, but the combs are not moldy. The hives are set on planks, about 3 feet from the ground. I lost only 5 colonies out of 40, which, I think, is doing well for a beginner. I work only for comb-honey, and can sell it at from 20 to 25 cents per pound. I expect a good crop this season, as there are plenty of soft maples and white and sweet clover. The best honey I have had was from sweet clover. Last year was a stunner, but I am not discouraged.

GEO. W. STILES.

Harvey, Ills., April 17, 1891.

Bees were Allowed to Starve.

My bees wintered pretty well, and I only lost 5 colonies out of 62, but I had to feed them last Fall. A great many bees in this county starved because they were not fed last Fall, or early this Spring. Prospects are good for white clover, which is commencing to bloom. There is but little at present for bees to work on, as the fruit-bloom is about gone. This section was visited by a fine rain the day before yesterday, which was badly needed, and it is cloudy and quite cool to-day. W. H. TUTTLE.

Creston, Iowa, May 23, 1891.

Connecticut Association.

The Connecticut Bee-Keepers' Association was formed on May 13, at Mr. Edwin E. Smith's, in Watertown, Conn., and the following officers elected: President, Edward S. Andrus, Torrington; First Vice-President, Barber F. Stratton, Hazardville; Second Vice-President, Edwin E. Smith, Watertown; Secretary, Mrs. W. E. Riley, Waterbury; Treasurer, Porter L. Wood, Waterbury. The next meeting will be held in Hartford, Conn., some time in the Fall, and it is hoped there will be a good attendance. A MEMBER.

Our Book—Bees and Honey.

A new (the eighth) edition of the well-known work, "Bees and Honey, or the Management of an Apiary for Pleasure and Profit," thoroughly revised and largely rewritten, is sent to us by Mr. Thomas G. Newman, author and publisher, 246 East Madison Street, Chicago. It is a duodecimo volume of 250 pages, adorned with a great number of illustrations (including portraits of all the chief students of the bee, living and dead), and neatly bound in cloth. The price is $1.—*Country Gentleman.*

Wavelets of News.

Pollen for Spring Use.

The brood-combs in reserve that have the most pollen in them should be the ones first given to the colonies in the Spring. These are the ones among which the moths work first, and make the most havoc, and the pollen they contain is just what the bees need when new pollen is not plenty, or they are prevented from collecting it by long continued storms.—*Farm and Home.*

Spring Dwindling.

This has been one of the most disastrous years ever passed through in this vicinity. Many small bee-keepers (having 5 to 15 colonies) have lost all, and of my home lot, the loss will amount to at least 40 per cent., although but few died in the cellar; but in all my experience I never saw so bad a case of Spring dwindling. What were fairly good colonies when set out, are now no more, and queens, too, disappear every time I look them over.

I have an interest in another lot of bees ten miles from here, which came out in good condition; and what I never had occur before, stored quite a quantity of honey from hard-maple bloom; in fact, counting the strength of the colonies, and the shortness of the days, I think they stored it as fast as during basswood time. But when will we again get weather just right, at just the right time?

Bees are now revelling in fruit-bloom, and I hope it will put a stop to dwindling.—C. A. HATCH, in the *Wisconsin Farmer.*

Is Colorado a Honey Country?

To this question I will emphatically answer yes.

Take the country between the South Platte River and the highest foot-hills from Denver and Golden to north of Ft. Collins, you will find it one of the best settled and cultivated and productive regions of the State. See the thousands of happy homes, surrounded by all sorts of grain, fruits and flowers, both wild and cultivated. Why should not this be the happy honey-ground for the beautiful golden-banded bees, in this American Italian climate? A strong proof of profit and success, is the number of persons engaged in the business, and the numerous carloads of hive stuff and bee-fixtures sold here. Also the tons of first-class honey shipped out.

In the little town of Longmont there are about 500 colonies of bees, and within a radius of ten miles 3,000. From what I can learn Loveland and Ft. Collins are coming to the front with their proportion. Though this was not a full honey year, and many colonies stored but little surplus, yet some apiaries averaged 70 pounds to the hive, Spring count. A great loss was in the bee-keeper's own neglect or mismanagement.

The foot-hills, canyons and little streams coming out of the mountains, furnish a field for the working bees. Mrs. Taylor, of Winona, near the Big Thompson canyon, says the wild fruits and flowers alone furnish a splendid bee-pasturage.—D. R. EMERY, in *Colorado Farmer.*

Remedy for Black Ants.

My hives were covered with ants, but now I do not see them at all. The bottoms of my chaff hives are painted with coal tar. It costs 10 cents a gallon. One quart warmed and spread on quite thickly, with a brush-broom, will paint the bottoms of ten hives. The mice do not trouble them either. It is cheaper than tarred paper; it also preserves the wood.—R. A. TOBEY, in *Buckeye Farmer.*

Warm Water for Bees.

I have just been out to empty the bees' watering trough—it froze hard last night; and if left for the sun to thaw out, the result would be many chilled and drowned bees. In a few moments, just before the bees come out, I shall fill the trough with quite hot water. It is very shallow, and will need re-filling every hour with the warm water. It is placed a few yards from the hives, and just south of the eight-foot, tight-board fence, north of the apiary. Bees would otherwise go half a mile north, in the chilling wind, for *cold* water instead of warm, and many would be chilled and lost.

It was indeed a beautiful sight yesterday, such a swarming over the water! The day before had been too cold for flight; thus they came in double numbers.

I sat down in the midst of them, and they swarmed all over me, warming themselves in the bright morning sun-

shine, with a murmuring like the sound of many waters. And I sat and dreamed of the unfathomed and unfathomable mystery of LIFE, and—of the pennies my bees will have brought me next Fall! —DREAMER, in *Wisconsin Farmer*, May 20, 1891.

Red Clover and Honey Bees.

Red clover abounds in nectar, but when it grows on very rich soil the petals of the heads are so long that honey bees cannot reach it, and the fertilizing has to be performed by bumble-bees. But on poor soil during a drouth, the head are small, and bees can reach the nectar, or when it is so abundant that it wells up in the tubes, they can reach it. Bee-keepers living on a peninsula in northern Michigan, report that red clover is their main dependence for honey, and the clover heads there are always very small.—*Prairie Farmer.*

Preconceived Notions.

What a lot of trouble this commodity in human nature makes us sometimes! We figure out in advance whether a thing will or will not work. We are morally certain that we are not deceived, and we try hard to make all our experiments come out so as to favor our views. With enough bias of opinion, we can make out a pretty straight story for or against the idea; but when such are reported, it costs the fraternity much. Let us be unbiased, and ready to discard our old notions when facts and experience warrant it.—*Gleanings.*

Combs Containing Dead Bees.

Where the bees are dead in a hive, take out the combs and look them over carefully; cut off queen-cells, as they will never be used again, and only add to the weight of the comb. If there is thick comb, with cells on only one side, cut it off; also drone-comb.

Scrape out the hive and put the scrapings, queen-cells, drone-comb, etc., together to be melted up for wax. This refuse does not look fit for anything; but it is. If handled rightly, the product will be beautiful wax.

I always scrub out such hives with a brush and hot suds, and scald them with boiling water before I return the combs, especially if the bees died of diarrhea. A swarm then run into the hive will find it clean and furnished, and will not desert it.—MRS. L. HARRISON, in the *Prairie Farmer.*

Bee-Culture a National Industry.

Among the recent industries of rapid growth in this country, bee-culture stands pre-eminent. Of course, as a homely art, bee-keeping is no modern industry, being as old as history; but in its scientific developments, it is of recent growth.

In these times, when science is properly taking its place at the helm in all departments of human industry and activity, it is not strange that it is promptly assuming the guidance of bee-culture.

This is a utilitarian, as well as a scientific age; and this is why bee-culture is being so rapidly developed, for its extraordinary growth is only in the ratio of its utility.

Though known to commerce for 2,500 years, hitherto it has been followed and known, in this country at least, principally as a local industry. But bee-culture, from the soundest economic considerations, ought undoubtedly to become a great national industry, fostered and protected by the State.—*Exchange.*

Races of Bees.

Dalmatian bees are easy to manage, and excel in comb-honey.

The Hymettus bees of Attica are much like Carniolans except in disposition.

Palestine bees come from the Holy Land, and are often confused with Syrians, to which they are inferior. They use more propolis than any other variety, and are more troubled with laying workers, but are even more beautiful than Cyprians.

Egyptian bees, found in Egypt, Arabia and Asia Minor, have yellow bands, and are smaller than Italians. Although they have long been domesticated in Egypt, where floating apiaries were common, they have been found vicious by European bee-keepers who introduced them. Their cells are smaller than those of other species. Some naturalists believe yellow bees originated from them instead of from Syrians.—*Indiana Farmer.*

Separators and Comb-Honey.

For profit alone use no separators; if straighter combs are desired, use the T super with separators; If the eye and the taste are to be gratified at the expense of financial profit, use single wide frames with separators.—R. L. TAYLOR, in the *Review.*

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Bee-Keepers' Review	2 00	1 75
The Apiculturist	1 75	1 65
Canadian Bee Journal	1 75	1 65
American Bee-Keeper	1 50	1 40
The 7 above-named papers	6 00	5 00
and Langstroth Revised (Dadant)	3 00	2 75
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Bees and Honey (Newman)	2 00	1 75
Binder for Am. Bee Journal	1 60	1 50
Dzierzon's Bee-Book (cloth)	3 00	2 00
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Please send us the names of your neighbors who keep bees, and we will send them sample copies of the BEE JOURNAL. Then please call upon them and get them to subscribe with you.

Very Well Pleased. — The Sewing Machine and Scales are received in good order, and I am well pleased with them. They do good work. The sewing machine is ornamental as well as useful. The scales are very handy for family use.—G. RUFF, Burlington, Iowa.

We Club the American Bee Journal and the Illustrated Home Journal, one year for $1.35. Both of these and Gleanings in Bee Culture, for one year, for $2.15.

☞ The Union or Family Scale has been received, and I am much pleased with it. W. H. KIMBALL.
Davenport, Iowa.

The Bee-Keepers' Directory, by Henry Alley, Wenham, Mass. It contains his method for rearing queens in full colonies, while a fertile queen has possession of the combs. Price by mail, 50 cents.

We send both the Home Journal and Bee Journal for one year, for $1.35.

Bee-Keeping for Profit, by Dr. G. L. Tinker, is a new 50-page pamphlet, which details fully the author's new system of bee-management in producing comb and extracted-honey, and the construction of the hive best adapted to it—his "Nonpareil." The book can be had at this office for 25c.

Clubs of 5 New Subscriptions for $4.00, to any addresses. Ten for $7.50.

Convention Notices.

☞ The Rock River Bee-Keepers' Association will meet at Sterling, Ills., on Thursday, Aug. 6, 1891.
J. M. BURTCH, Sec., Morrison, Ills.

☞ The ninth annual meeting of the Susquehanna County, Bee-Keepers' Association will be held on Thursday, Sept. 3, at South Montrose, Pa.
H. M. SEELEY, Sec., Harford, Pa.

HONEY AND BEESWAX MARKET.

NEW YORK, May 29.—New crop of Southern honey is now arriving freely. We quote: Extracted, 75@80c; orange blossom, 7@7½c; California, 7@7½c. Beeswax scarce at 28@30c.
HILDRETH BROS. & SEGELKEN,
28-30 West Broadway.

KANSAS CITY, May 30.—Choice 1-lb. comb all sold; plenty of 2-lb. and extracted on the market. We quote: Comb, 2-lb., 10c. Extracted, 6@6½c. No beeswax in the market.
CLEMONS, MASON & CO.,
Cor. 4th and Walnut Sts.

CINCINNATI, May 30.—There is fairly good demand for both comb and extracted-honey, with good supply. Comb-honey, 14@16c for choice, in a jobbing way; extracted, 6@8c.
Beeswax is in good demand at 25@30c for good to choice yellow. C. F. MUTH & SON,
Corner Freeman & Central Aves.

CHICAGO, May 30.—Demand for both comb and extracted honey increasing, and our stock is light. Can use shipments to advantage. 1-lb. sections, 16@18c; 2-lbs., 14@15c; extracted, 7@8c. Beeswax, 30c.
S. T. FISH & CO., 189 S. Water St.

KANSAS CITY, May 30.—The demand for honey is very light; supply fair, at 12@14c; extracted, 5@7c. All good comb-honey sold out; new crop will be in within 30 days; prospects good. The demand for beeswax is good, at 25@27c; supply light.
HAMBLIN & BEARSS, 514 Walnut St.

CHICAGO, May 30.—Very little comb-honey being sold; prices are about the same, with really very little fancy goods offered. Best white comb, 17@18c; extracted, steady, is in good condition, at 7@8c. Beeswax, 28c.
R. A. BURNETT, 161 S. Water St.

BOSTON, May 29.—No change in prices of honey; sales a little slow, on account of extremely low price of maple sugar. White, 1-lb. comb, 18@19c; fair to good, 14@18c; 2-lb. sections, 16@17c. Extracted, selling at 7½@8½c. No beeswax on hand.
BLAKE & RIPLEY, 57 Chatham St.

ALBANY, N.Y., May 29.—The honey market is slow, with small stocks of comb. We quote: clover, 1-lb. comb, at 15@16c; buckwheat, 12@13c. Extracted, light, slow at 7@8c; dark, firm at 6@7c. Beeswax, 25@27c.
H. R. WRIGHT, 326-328 Broadway.

NEW YORK, May 29.—No comb-honey in market. Extracted—demand light, except for Southern, which would sell easily at 75@80c per gallon for common, and 7½@8c for Florida. Beeswax scarce and firm at 29c.
F. G. STROHMEYER & CO., 122 Water St.

MILWAUKEE, May 30.—Supply of choice comb-honey is very small, and shipments will find a good market. We quote: Choice, 1-lb. sections, 18@19c; second best, 16@17c; common, 13@15c; dark, 10@12c. Extracted, white, in barrels and kegs, 8@8½c; dark or amber, 6@7½c. Beeswax, 28@30c.
A. V. BISHOP, 142 W. Water St.

CHICAGO, May 30.—Fancy white comb-honey, 1-lb., 17@18c; fair to good, 15@17c; ordinary grades, 1@2c less. Extracted—white clover or basswood, in kegs or small barrels, 8@9c; California, 60-lb. cans, 7@8c. Beeswax scarce and in demand at 30@31c for prime yellow. J. A. LAMON, 44-46 S. Water St.

DETROIT, May 30.—No comb-honey in the market. Extracted, 8@9c. Beeswax firm, at 29@30c. M. H. HUNT, Bell Branch, Mich.

SAN FRANCISCO, May 27.—Extracted honey is not plentiful. We quote: 5½@6½c, the latter for water-white. No comb-honey in market. Beeswax scarce, at 26@27c.
SCHACHT, LEMCKE & STEINER,
16-18 Drum St.

Wants or Exchanges.

Under this heading, Notices of 5 lines, or less, will be inserted at **10 cents per line,** for each insertion, when specially ordered into this Department. If over 5 lines, the additional lines will cost 20 cents each.

WANTED—Italian Queens or offers for pure Plymouth Rock Eggs or Quinby Hive-Corner Clasps. L. C. AXTELL, Roseville, Ills.
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WANTED—To exchange for about 25 lbs. of Bees, tested Queens, either 3-band or 5-band Italians, to be sent in June. Will give one tested Queen for every pound of bees, any race, sent me, charges paid. If you can spare them and desire a Queen, send bees at once and drop me a card. JACOB T. TIMPE, Express and P.O. address, Grand Ledge, Mich.
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